KNOLLWOOD ENERGY

REC15-275

NHPUC JUL09'15 AM10:05

Knollwood Energy of MA LLC
P.O. Box 30
Chester, New Jersey 07930

July 7, 2015

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Dear Ms Howland,

Enclosed please find the application for the Michael Sampo system to be part of the Knollwood Energy of MA LLC (NH-II-13-089) Class II Photovoltaic aggregation for New Hampshire Renewable Energy Certificates (RECs) generated from customer-sited sources, pursuant to New Hampshire Code of Administrative Rules Puc 2506 (including new requirements 2506.01 and PUC 2506.02)

Customer Information
Michael Sampo
64 Woodhill Hooksett Rd
Bow, NH 03304
603.305.0726
msampo@comcast.net

Facility Information
Michael Sampo
59 Woodhill Hooksett Rd
Bow, NH 03304

The new Nepool GIS ID # for this facility is: NON50354. Also enclosed are the Simplified Process Interconnection Application and Service Agreement, and the Certificate of Completion. An electronic version has been sent to executive.director@puc.nh.gov.

Please do not hesitate to contact me if you have any questions regarding this application.

Thank you for your consideration,

Linda Modica
New England REC Operations Manager
Knollwood Energy of MA LLC
973.879.7826
linda@knollwoodenergy.com

Enclosures (3)

State of New Hampshire
Public Utilities Commission

21 S. Fruit Street, Suite 10, Concord, NH 03301-2429

DRAFT APPLICATION FORM FOR
RENEWABLE ENERGY CERTIFICATE (REC) ELIGIBILITYFOR CLASS I AND CLASS II SOURCES WITH A CAPACITY OF 100 KILOWATTS OR LESS

Pursuant to New Hampshire Administrative Code Puc 2500 Rules including Puc 2505.08, Certification of Certain Customer-Sited Sources

- Please submit one (1) original and two (2) paper copies of the completed application and cover letter* to:
  Debra A. Howland, Executive Director, New Hampshire Public Utilities Commission
  21 South Fruit Street, Suite 10, Concord, NH 03301-2429
- Send an electronic version of the completed application and the cover letter electronically to executive.director@puc.nh.gov.
- The cover letter must include complete contact information and identify the renewable energy class for which the applicant seeks eligibility. Pursuant to Puc 2505.01, the Commission is required to render a decision on an application within 45 days of receiving a completed application.

If you have any questions please contact Barbara Bernstein at (603) 271-6011 or Barbara.Bernstein@puc.nh.gov.

- **Photovoltaic (PV) solar facilities are Class II resources. Contact Barbara.Bernstein@puc.nh.gov for assistance.**

Eligibility Requested for: **Class I** ☐ **Class II** x☐ **Check here X☐ if this facility part of an aggregation.**

If the facility is part of an aggregation, please list the aggregator's name. Knollwood Energy of MA

- **Provide the following information for the owner of the PV system. (mailing address)**

Applicant Name Michael Sampo Email msampo@comcast.net

Address 64 Woodhill Hooksett Rd City Bow State NH Zip 03304

Telephone 603-305-0726 Cell

- **For business applicants, provide the facility name and contact information (if different than applicant contact information). (Facility Address)**

Facility Name Michael Sampo Primary Contact Michael Sampo

Address 59 Woodhill Hooksett Rd City Bow State NH Zip 03304

Telephone Same as above Cell

Email address: msampo@comcast.net

- **Provide a complete list of the equipment used at the facility, including the revenue grade REC meter, and, if applicable, the inverter. Your facility will not qualify for RECs without a REC meter.**

equipment	quantity	Type	equipment	quantity	Type
PV panels	54	SolarWorld SW275	other		
Inverter	2	Solaredge SE7600A-US	other		
meter	1	Itron Centron Fm2s cis 30ta 1.0kh	other		

- **A copy of the interconnection agreement and the approval to operate your PV system from your electric utility must be included with your application.**
- **For PSNH customers, both the *Simplified Process Interconnection Application* and *Exhibit B - Certificate of Completion* are required.**

What is the nameplate capacity of your facility (found on your interconnection agreement)? 15.2 AC

What was the initial date of operation (the date your utility approved the facility)? 4/8/15

- **Provide the name, license number and contact information of the installer, or indicate that the equipment was installed directly by the customer.**

Installer Name Frase Electric LLC Contact Kim Frase License # (if applicable) 4146M

Address 789 Whittier Hwy City So. Tamworth State: NH Zip 03883

Telephone 603.284.6618 email kim@fraseelectric.com

If the equipment was installed directly by the customer, please check here: ☐

- **Provide the name and contact information of the equipment vendor.**

☐ X *Check here if the installer provided the equipment and proceed to the next question.*

Business Name _____ Contact _____

Address _____ City _____ State _____ Zip _____

Telephone _____ email _____

- **If an independent electrician was used, please provide the following information.**

Electrician's Name Same as Installer – Frase Electric LLC License # _____

Business Name _____ Email _____

Address _____ City _____ State _____ Zip _____

- **Provide the name of the independent monitor for this facility.** (A list of approved independent monitors is available at http://www.puc.nh.gov/Sustainable%20Energy/Renewable_Energy_Source_Eligibility.htm.)

Independent Monitor's Name Paul Button Energy Audits Unlimited

Is the facility certified under another state's renewable portfolio standard? yes ☐ no ☐X
If "yes", then provide proof of the certification as ***Attachment C.***

- ***Please note, if your facility is part of an aggregation, your aggregator should provide you with the following information.***
- **In order to qualify your facility's electrical production for Renewable Energy Certificates (RECs), you must register with the NEPOOL – GIS.** ***Contact information for the GIS administrator follows:***

James Webb
Registry Administrator, APX Environmental Markets
224 Airport Parkway, Suite 600, San Jose, CA 95110
Office: 408.517.2174 jwebb@apx.com

If you are not part of an aggregation, Mr. Webb will assist you in obtaining a GIS facility code.

GIS Facility Code # NON50354 **Asset ID #** NON50354

- **Complete an affidavit by the applicant or qualified installer that the project is installed and operating in conformance with any applicable state/local building codes.** Use either the following affidavit form or provide a separate document.
- **The Commission requires a notarized affidavit as part of the application.**

AFFIDAVIT

The Undersigned applicant declares under penalty of perjury that the project is installed and operating in conformance with all applicable building codes. (please see attached)

Applicant's Signature _____ Date _____

Applicant's Printed Name Linda Modica

Subscribed and sworn before me this _____ Day of _____ (month) in the year _____

County of _____ State of _____

_____
Notary Public/Justice of the Peace

- **Complete an affidavit by the applicant or qualified installer that the project is installed and operating in conformance with any applicable state/local building codes.** Use either the following affidavit form or provide a separate document.
- **The Commission requires a notarized affidavit as part of the application.**

AFFIDAVIT

The Undersigned applicant declares under penalty of perjury that the project is installed and operating in conformance with all applicable building codes.

Applicant's Signature _____ Date 6/12/15

Applicant's Printed Name Linda Modica

Subscribed and sworn before me this 12 Day of June (month) in the year 2015

County of Morris State of New Jersey

Barbara Burghardt
Notary Public/Justice of the Peace

BARBARA BURGHARDT NOTARY PUBLIC NEW JERSEY COMM. EXP. FEBRUARY 16, 2017

My Commission Expires 2/16/17

My Commission Expires _____

- **Complete the following checklist. If you have questions, contact** barbara.bernstein@puc.nh.gov.

CHECK LIST: The following has been included to complete the application:	**YES**
• All contact information has been provided.	X
• A copy of the interconnection agreement. PSNH Customers should include both *the Interconnection Standards for Inverters Sized up to 100 KVA* **and** *Exhibit B – Certification of Completion for Simplified Process Interconnection.*	x
• Documentation of the distribution utility's approval of the installation.*	x
• If the facility is participating in another state's renewable portfolio standard (RPS) program, documentation of certification in other state's RPS.	
• A signed and notarized attestation.	x
• A GIS number obtained from the GIS Administrator.	x
• The document has been printed and notarized.	x
• The original and 2 copies are included in the packet mailed to Debra Howland, Executive Director of the PUC.	x
• An electronic version of the completed application has been sent to executive.director@puc.nh.gov .	x
Usually included in the interconnection agreement.	

- **If the application has been prepared by someone other than the applicant, complete the following. If the application was prepared by the applicant, check here ☐ and skip this section.**

PREPARER'S INFORMATION

Preparer's Name Linda Modica Email address: linda@knollwoodenergy.com

Address PO Box 30 City Chester State NJ Zip 07930

Telephone 973.879.7826 Cell _____

Preparer's Signature: 7/8/15

Unitil

Generating Facility
(*Standard Process*) Interconnection Application

Contact Information

Legal Name and address of Interconnecting Customer (or, Company name, if appropriate)

Customer or Company Name: MICHAEL STAUPO Contact Person, if Company: _____

Mailing Address: 64 WOODHILL HOOKSETT RD

City: BOW State: N.H. Zip Code: 03304

Telephone (Daytime): 603 305 0726 (Evening): 603 305 0726

Facsimile Number: _____ E-Mail Address: MSTAUPO@COMCAST.NET

Alternative Contact Information (e.g. system installation contractor or coordinating company)

Name: Frase Electric LLC

Mailing Address: 789 Whittier Hwy

City: So. Tamworth State: NH Zip Code: 03883

Telephone (Daytime): 603-284-6618 (Evening): 603 284-6618

Facsimile Number: 284-6343 E-Mail Address: Dave@fraseelectric.com

Ownership (include % ownership by any electric utility): 100%

Confidentiality Statement: "I agree to allow information regarding the processing of my application (without my name and address) to be reviewed by the DG Collaborative that is exploring ways to further expedite future interconnections."

Yes X No _____

Generating Facility Information

Address of Facility: 59 64 WOODHILL HOOKSETT RD.

City: BOW State: N.H. Zip Code: 03304

Electric Service Company: UNITIL Account Number (if available): _____

Type of Generating Unit: *Synchronous*_____ *Induction*_____ *Inverter*_____

Manufacturer: _____ Model: _____

Nameplate Rating: _____ (kW) _____ (kVAr) _____ (Volts) Single____ or Three____ Phase

Prime Mover: Fuel Cell____ Recip Engine____ Gas Turb____ Steam Turb____ Microturbine____ PV____ Other____

Energy Source: Solar____ Wind____ Hydro____ Diesel____ Natural Gas____ Fuel Oil____ Other_____ (Specify)

UL 1741 Listed? Yes_____ No _____ Need an air quality permit from DEP? Yes_____ No ____ Not Sure _____

If "yes", have you applied for it? Yes____ No____

Planning to Export Power? Yes_____ No____ A Cogeneration Facility? Yes_____ No_____

Anticipated Export Power Purchaser: _____

Export Form? Simultaneous Purchase/Sale_____ Net Purchase/Sale____ Net Metering____ Other_____ (Specify)

Est. Install Date: _____ Est. In-Service Date: _____ Agreement Needed By: _____

Application Process

I hereby certify that, to the best of my knowledge, all of the information provided in this application is true:

Customer Signature: _____ Title: OWNER Date: 11/4/14.

The information provided in this application is complete:

Company Signature: _____ Title: _____ Date: _____

Generating Facility Technical Detail

List components of the generating facility that are currently certified and/or listed to national standards

	Equipment Type	Manufacturer	Model	National Standard
1.	Inverter	SolarEdge	7600-A-US	UL1741 / IEEE1547
2.	Solar Panel	SolarWorld	Sunmodule 270 BK	UL1703 / IEEE 61215
3.				
4.				
5.				
6.				

Total Number of Generating Units in Facility? 2

Generator Unit Power Factor Rating: 1.2

Max Adjustable Leading Power Factor? 1 Max Adjustable Lagging Power Factor? NA

Generator Characteristic Data (for all inverter-based machines)

Max Design Fault Contribution Current? 63 Instantaneous ✓ or RMS? ____

Harmonics Characteristics: _____

Start-up power requirements: 240V

Generator Characteristic Data (for all rotating machines) NA

Rotating Frequency: _____ (rpm) Neutral Grounding Resistor (If Applicable):____

Additional Information for Synchronous Generating Units

Synchronous Reactance, Xd: _____ (PU) Transient Reactance, X'd: _____ (PU)

Subtransient Reactance, X"d: _____ (PU) Neg Sequence Reactance, X_2: ____ (PU)

Zero Sequence Reactance, Xo: _____ (PU) kVA Base: _____

Field Voltage: _____ (Volts) Field Current: _____ (Amps)

Additional information for Induction Generating Units

Rotor Resistance, Rr: _____ Stator Resistance, Rs: _____

Rotor Reactance, Xr: _____ Stator Reactance, Xs: _____

Magnetizing Reactance, Xm: _____ Short Circuit Reactance, Xd": _____

Exciting Current: _____ Temperature Rise: _____

Frame Size: _____

Total Rotating Inertia, H: _____ Per Unit on kVA Base: _____

Reactive Power Required In Vars (No Load): _____

Reactive Power Required In Vars (Full Load): _____

Additional information for Induction Generating Units that are started by motoring

Motoring Power: _____ (kW) Design Letter: _____

Interconnection Equipment Technical Detail

Will a transformer be used between the generator and the point of interconnection? Yes_____ No ✓

Will the transformer be provided by Interconnecting Customer? Yes_____ No ✓

Transformer Data (if applicable, for Interconnecting Customer-Owned Transformer): NA

Nameplate Rating: _____ (kVA) Single ____ or Three _____ Phase

Transformer Impedance: _____ (%) on a _____ kVA Base

If Three Phase:
Transformer Primary: _____ (Volts) ___Delta ____ Wye _____ Wye Grounded ____ Other

Transformer Secondary: _____ (Volts) ___Delta ____ Wye _____ Wye Grounded ____ Other

Transformer Fuse Data (if applicable, for Interconnecting Customer-Owned Fuse): NA

(Attach copy of fuse manufacturer's Minimum Melt & Total Clearing Time-Current Curves)

Manufacturer: _____ Type:_____ Size: _____ Speed: _____

Interconnecting Circuit Breaker (if applicable):

Manufacturer:_____ Type:_____ Load Rating:_____ (Amps) Interrupting Rating:_____ (Amps) Trip Speed:_____ (Cycles)

Interconnection Protective Relays (if applicable): NA

(If microprocessor-controlled)
List of Functions and Adjustable Setpoints for the protective equipment or software:

	Setpoint Function	Minimum	Maximum
1.			
2.			
3.			
4.			
5.			
6.			

(If discrete components)
(Enclose copy of any proposed Time-Overcurrent Coordination Curves)

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Manufacturer:_____ Type:_____ Style/Catalog No.:_____ Proposed Setting:_____

Current Transformer Data (if applicable):

(Enclose copy of Manufacturer's Excitation & Ratio Correction Curves)

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

Potential Transformer Data (if applicable):

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

Manufacturer:_____ Type:_____ Accuracy Class:_____ Proposed Ratio Connection:_____

General Technical Detail

Enclose 3 copies of site electrical One-Line Diagram showing the configuration of all generating facility equipment, current and potential circuits, and protection and control schemes with a registered professional engineer (PE) stamp.

Enclose 3 copies of any applicable site documentation that indicates the precise physical location of the proposed generating facility (e.g., USGS topographic map or other diagram or documentation).

Proposed Location of Protective Interface Equipment on Property:
(Include Address if Different from Application Address)

100 Amp Meter Main By Net meter

Enclose copy of any applicable site documentation that describes and details the operation of the protection and control schemes.

Enclose copies of applicable schematic drawings for all protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable).

Please enclose any other information pertinent to this installation.

Unitil

Certificate of Completion for (*Standard Process*) Interconnections

Installation Information: ☐ Check if owner-installed

Customer or Company Name (print): MICHAEL SAWPO Contact Person, if Company: _____
Mailing Address: 64 WOODHILL HOOKSETT RD.
City: BOW State: N.H. Zip Code: 03304
Telephone (Daytime): 603 305 0726 (Evening): 603 305 0726
Facsimile Number: _____ E-Mail Address: MSAWPO@COMCAST.NET

Address of Facility (if different from above): 59 WOODHILL HOOKSETT RD.
City: BOW State: N.H. Zip Code: 03304

Electrical Contractor's Name (if appropriate): Frase Electric LLC
Mailing Address: 789 Whittier Hwy
City: So. Tamworth State: NH Zip Code: 03883
Telephone (Daytime): 603-284-6618 (Evening): 603 284-6618
Facsimile Number: 603 284-6343 E-Mail Address: Kim@fraseelectric.com
License number: 4146M

Date of approval to install Facility granted by the Company: _____

Application ID number: _____

Inspection:

The system has been installed and inspected in compliance with the local Building/Electrical Code of
Bow Merrimack
(City/County)

Signed (Local Electrical Wiring Inspector, or attach signed electrical inspection): Bruce Buttrick

Name (printed): Bruce Buttrick

Date: 4-8-15

As a condition of interconnection you are required to send a copy of this form along with a copy of the signed electrical permit to Unitil at the following address:

Unitil Corporation
Attention: Generator Interconnections
6 Liberty Lane West
Hampton, NH 03842